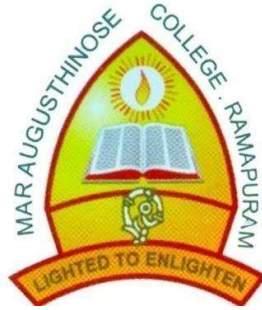


**MAR AUGUSTHINOSE COLLEGE RAMAPURAM**



**DEPARTMENT OF ELECTRONICS**

*Scheme and Syllabus of  
Value Added Course  
2023 onwards*

**MAVAC002**

**COMPUTER HARDWARE ASSEMBLING AND TROUBLESHOOTING**

## **BOARD OF STUDIES (BoS)**

**Chairperson :-** Mrs. Siji Jacob (Asst. Prof. Department of Electronics)

### **Members:-**

1. Mr. Kishore (Asst. Prof. Department of Electronics)
2. Mrs. Regina Sebastian (Asst. Prof. Department of Electronics)
3. Mrs. Jomy Joseph (Asst. Prof. Department of Electronics)
4. Mr. Jijo Sebastian (Asst. Prof. Department of Electronics)

### **INTRODUCTION**

The Value-Added Courses aims to provide additional learner centric graded skill oriented technical training, with the primary objective of improving the employability skills of students

### **AIM OF THE PROGRAMME**

Understanding various aspects of the subject and acquiring methodological knowledge of them. Application of this knowledge in a suitable manner in required fields.

### **ELIGIBILITY FOR ADMISSIONS**

All UG and PG students from various departments of the college. The number of intakes to the course is limited. The course can be offered only if there are at least 5 students opting for it.

**MEDIUM OF INSTRUCTION: English.**

### **DURATION OF THE COURSE**

The duration of value-added course is 30 hours (including the hours of final examination) of which 15hrs theory and 15hrs for laboratory/demonstration/experimental activities and the course can have a maximum of three hours a day.

The value-added courses will be offered beyond the usual class hours and days of the college.

The value-added course will be a blend of theory classes / experimental learning / project-based learning / assignments / activity-based learning.

### **COURSE OBJECTIVES**

The main objectives of the program are;

1. To bring an awareness about Computer assembling.
2. To bridge the skill gaps and make them ready for industry

3. To provide an opportunity to develop inter-disciplinary skill
4. With basic understanding of Computer assembling and practical knowledge making them able to configure a computer by themselves
5. The department provides value added courses for all staff members, villagers and students from all streams of courses.

### **COURSE OUTCOMES (Cos)**

- CO1.Prepare students to get awareness about Computer assembling.
- CO2.To create and troubleshoot small computer assembling.
- CO3.To make them aware of using computer safely.

### **EVALUATION**

1. The value-added courses shall be evaluated through an examination at the end of the course.
2. The duration of examination is two hours.
3. The total marks of the examination shall be 100

<b>Components of Evaluation</b>	<b>Marks</b>
Attendance	10
Assignment / Seminar	10
Project & Viva	30 (20+10)
External Examination	50
<b>Total</b>	<b>100</b>

### **Pattern of questions Paper**

Sl. No.	Pattern	Marks	Choice of questions	Total marks
1	Short Answer/problem type	<b>2</b>	<b>5/7</b>	<b>10</b>
2	Short essay/problem	<b>5</b>	<b>4/6</b>	<b>20</b>
3	Essay/problem	<b>10</b>	<b>2/4</b>	<b>20</b>
<b>Total</b>				<b>50</b>

4. A committee consisting of the Head of the Department, the course coordinator and a senior faculty member nominated by the Head of the department shall monitor the evaluation process.
5. The list of students along with the marks and the grades earned may be forwarded to the Principal/Chief Superintendent of Examinations.
6. The Dept. course coordinator is responsible for maintaining and processing the record with regard to the course, assessment marks and results.
7. Certificates will be issued to those students with 75% attendance, timely submission of assignment and project and a minimum of 40% marks in the qualifying examination.

### **Grading Pattern**

Grades are given **on a 7-point scale** based on the total percentage of marks, **(ISA+ESA)** as given below: -

<b>Percentage of Marks</b>	<b>Grade</b>
95 and above	<b>S</b> Outstanding
85 to below 95	<b>A<sup>+</sup></b> Excellent
75 to below 85	<b>A</b> Very Good
65 to below 75	<b>B<sup>+</sup></b> Good
55 to below 65	<b>B</b> Above Average
45 to below 55	<b>C</b> Satisfactory
35 to below 45	<b>D</b> Pass
below 35	<b>F</b> Failure
Absent	<b>Ab</b>

**SYLLABUS**  
**MAVAC002 Computer Hardware Assembling and Troubleshooting**  
**Total hours of instruction: 30 Hours**

**Unit 1. (5 Hours)**

**Knowing computer:** Concepts of Hardware and Software, Components of Computer System, Monitor, Keyboard and Mouse, Other input/output Devices, familiarization of input/output ports.

**Unit 2. (5 Hours)**

**Motherboard:** Form factor, components, chipset, expansion slots and add on cards, mother board installation steps. SMPS

**Unit 3. (5 Hours)**

**Microprocessor:** Processor specifications, Popular Intel and AMD processors, Concept of cache memory, Processor sockets, processor pin packages, processor installation steps.

**Unit 4 (5 Hours)**

**Memory:** RAM memory modules- types and installation, Hard disk-components, types and installation steps, Hard disk partitioning and formatting

**Unit 5 (10 Hours)**

**PC Assembling:** Installation of mother board, SMPS, RAM, Hard disk, DVD drive and add on cards, Connecting input/output devices, familiarization of BIOS settings, identification of faults and troubleshooting.

**DEMONSTRATIONS/PRACTICALS (15 Hrs)**

1. Demonstration of PC Components.
2. Training on PC Assembling
3. Demonstration of OS Installations.
4. Demonstration of Application software installation.
5. Training on PC Troubleshooting

**Assignment and Project**

**REFERENCES**

1. Upgrading and Repairing PCs, Scot Mueller
2. All About Printers/Keyboards/Mouse, ManaharLotia, BPB Publishers
3. All About Motherboards – Manahar Lotia, BPB Publishers